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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/649,969	08/28/2000	Lawrence Cary Gunn III	06618/692001/CIT-3277	8911

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EXAMINER

NGUYEN, PHILLIP

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 01/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/649,969

Applicant(s)

GUNN III, LAWRENCE CARY

Examiner

Phillip Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11/19/02.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10, 12 and 16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12 and 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.



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**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

Applicant's arguments with respect to claims 1-10, 12, and 16 have been considered but are moot in view of the new ground(s) of rejection.

### ***Drawings***

1. In order to avoid abandonment, the drawing informalities noted in Paper No. 4 mailed on 7/15/02 must now be corrected. Correction can only be effected in the manner set forth in the above noted paper.
2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the core and the cladding must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.
3. The drawings are objected to under 37 CFR 1.83(a) because they fail to show "resonator 130" on page 3, line 21, and "an erbium doped silicon dioxide material 210" on page 3, lines 22-23, and "gain medium 240" on page 4, lines 17-18, as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 recites “formed of inner core portion” which is not described in the specification.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4, 10, 12, and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites “a pump laser, optically pumping said cladding layer” which is not clear whether the pump laser pumps light directly to the cladding layer of the resonator or indirectly through the waveguide coupled to the resonator.

Claim 4 recites “an effective path length of the pumping is based on an optical path length that is increased by the amplification” which is not clear.

Claim 5 recites “said optically active portion” which is lack of antecedence basis.

Claim 7 recites “said pumping laser” which is lack of antecedence basis.

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Claim 10 recites “using a pump laser to pump a doping in a core portion that is of the optical resonator” which is not clear and not initially specified in the claim 1 which is an apparatus claim.

Claim 12 recites “a clad” and “an optically active layer” which is lack of antecedence basis.

Claim 16 recites “formed of an inner active core material surrounded by an active clad material” which has not been initially introduced by any previous claim as the terminology read.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, and 5-7 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Little et al. ('495.)

With respect to claim 1, Little discloses in Figure 3 an optical disk-shaped resonator, which is in the shape of a disk. In Figure 5, Little discloses in detail wherein the resonator comprises an inner core portion, and a cladding layer surrounding said core portion, said cladding layer made of an optically active material, said cladding layer configured to amplify optical energy that is in said core portion (col. 4, lines 30-34, and 55-65.)

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With respect to claims 5 and 6, Little discloses the optically active portion is made of semiconductor material wherein the semiconductor is silicon or gallium arsenide (col. 4, lines 58-63.)

With respect to claim 7, it is inherent to Little that the light introduced to the resonator will cause the core to produce spontaneous emission.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-4, 8-10, 12, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Little et al. ('495) in view of King ('678.)

With respect to claim 2, Little discloses all the limitations except for a pump laser and the cladding layer being an erbium-doped portion of material. King discloses in Figure 1 a pump laser 4 and erbium doped amplifier. For the improvement of the device, it would have been obvious to the one having ordinary skill in the art at the time the invention was made to provide a pump laser to the resonator and erbium doped with the cladding because the device itself needs a laser source to provide light beam. Furthermore, the erbium-doped material is very popular for laser amplification in the art to substitute the material used for cladding in resonator as disclosed by Little to the art taught by King.

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With respect to claim 4, it is obvious that the optical path length of the pumping is based on an optical path length that is increased by the application since the loss of the light energy is proportional to the path length of optical fiber as well as other optical devices.

Claims 8-10, and 12 further recite a method for amplifying light. Since Little and King discloses the product, it is inherent product by process to perform a method as recited in the claims.

With respect to claim 16, Little discloses the claimed invention except for the pump laser. It would have been obvious to the one having ordinary skill in the art at the time the invention was made to provide the pump laser, since it has been held that omission of an element and its function in a combination where the remaining elements perform the same functions as before involves only routine skill in the art. In re Karlson, 136 USPQ 184.

#### *Citation of Pertinent References*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The patent to Little et al. discloses Resonator Modulators and Wavelength Routing Switches, U.S. Patent No. 6052495

The patent to King discloses Laser Pump Source and Method of Operation Thereof, U.S. Patent No. 6208678

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***Communication Information***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phillip Nguyen whose telephone number is 703-305-4966. The examiner can normally be reached on Monday to Friday from 8:30 AM to 5:30 PM

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip, can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are:


TC2800 Official Before-Final RightFAX - (703) 872-9318

TC2800 Official After-Final RightFAX - (703) 872-9319

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0658.

January 2, 2003

Phillip Nguyen, AU 2828

  
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